What Works Clearinghouse

INSTITUTE OF EDUCATION SCIENCES

Beginning Reading July 9, 2007

ClassWide Peer Tutoring

Program description[1]

ClassWide Peer Tutoring (CWPT) is a peer-assisted instructional strategy designed to be integrated with most existing reading curricula. This approach provides students with increased opportunities to practice reading skills by asking questions and receiving immediate feedback from a peer tutor. Pairs of students take turns tutoring each other to reinforce concepts and skills initially taught by the teacher. The teacher creates age-appropriate peer teaching materials for the peer tutors; these materials take into account tutees' language skills and disabilities. Although *CWPT* can be used in subject areas other than reading, this report focuses on *CWPT* for beginning reading for elementary school grade levels, which emphasizes reading fluency and comprehension skills.[2]

Research

One study of *CWPT* met the What Works Clearinghouse (WWC) evidence standards. The study included more than 200 students from six urban elementary schools in Kansas.[3]

The WWC considers the extent of evidence for *CWPT* to be small in the general reading achievement domain. No studies that met WWC evidence standards with or without reservations addressed alphabetics, fluency, or comprehension.

Effectiveness

CWPT was found to have potentially positive effects on general reading achievement.

	Alphabetics	*Fluency*	*Comprehension*	*General reading achievement*
Rating of effectiveness	na	na	na	Potentially positive
Improvement index[4]	na	na	na	+14 percentile points

na = not applicable

1. The descriptive information for this program was obtained from publicly available sources: the program's web site (www.jgcp.ku.edu, retrieved March 2007) and the research literature (Greenwood, Terry, Utley, Montagna, & Walker, 1993; Greenwood, Delquadri, & Hall, 1989). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review.
2. *CWPT* has developed a version of the program specifically for beginning readers *(BR: CWPT)*. However, this report focuses only on the broader *CWPT* program, which was the focus of the studies reviewed.
3. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
4. These numbers show the average and range of improvement indices for all findings across the study.

Additional program information[1]

Developer and contact

Developed by Juniper Gardens Children's Project, the *CWPT* manual and charts are distributed under the name *Together We Can* by Sopris West™. Address: 4093 Specialty Place, Longmont, CO 80504. Email: customerservice@sopriswest.com. Web: http://www.sopriswest.com/. Telephone: (303) 651-2829 or (800) 547-6747.

The *CWPT Learning Management System* (*CWPT–LMS*) is software support for implementing *CWPT* and is distributed by the Juniper Gardens Children's Project. *Beginning Reading CWPT*, a version of the program specifically designed for beginning readers (not reviewed in this report), is also distributed by Juniper Gardens Children's Project. Address: 650 Minnesota Avenue, 2nd floor, Kansas City, KS 66101. Web: www.jgcp.ku.edu. Telephone: (913) 321-3143.

Scope of use

CWPT was developed in the early 1980s by the Juniper Gardens Children's Project at the University of Kansas for use in inner-city schools. The program has been implemented with regular and special education students and English language learners. Information is not available on the number of students or schools that have used the program.

Teaching

CWPT is practiced 30 minutes a day throughout the week, including 20 minutes for tutoring and 10 minutes for material preparation. At the end of the week, students are individually tested on that week's material and pretested on the material for the upcoming week. Each Monday, students are paired up and each set of partners is assigned to one of two teams. Partners take turns tutoring and testing each other and award each other points for correct answers. The team with the most points is announced daily and is recognized each Friday. According to the developer, the program can be implemented in any content area involving drill and memorization, such as for spelling words, reading workbooks, and vocabulary words.

A computer-based approach to *CWPT* is also available. The *ClassWide Peer Tutoring Learning Management System* is a system of peer tutoring instruction with computer software support designed to help teachers implement effective instruction, monitor progress, and sustain use of the program over time. Training materials are available on the developer web site, and training is available from Juniper Gardens' staff.

Cost

Together We Can, a *CWPT* manual with reproducibles and four dry-erase posters, costs $51. The *CWPT Learning Management System* materials, including a CD, training, and teacher's manual, cost $245. The *Beginning Reading CWPT* materials, including the teacher's manual, lesson chart, CD, installation instructions, and software manual, cost $475.

Research

Twelve studies reviewed by the WWC investigated the effects of *CWPT*. One study (Greenwood, Terry, Utley, Montagna, & Walker, 1993) was a randomized controlled trial that met WWC evidence standards. The remaining 11 studies did not meet WWC evidence screens.

Met evidence standards

Greenwood et al. (1993) randomly assigned schools to intervention or comparison groups. The *CWPT* program was delivered to one cohort of students for four years while they were in first grade to fourth grade, and outcomes were tracked two years later in sixth grade. For rating purposes, this WWC intervention report focuses on these follow-up findings for 218 sixth-grade students.[5]

5. The findings reviewed for rating purposes document program effects two years after the delivery of the intervention had ended.

Research *(continued)*

Extent of evidence

The WWC categorizes the extent of evidence in each domain as small or moderate to large (see the What Works Clearinghouse Extent of Evidence Categorization Scheme). The extent of evidence takes into account the number of studies and the total sample size across the studies that met WWC evidence standards with or without reservations.[6]

The WWC considers the extent of evidence for *CWPT* to be small for general reading achievement. No studies that met WWC evidence standards with or without reservations addressed alphabetics, fluency, or comprehension.

Effectiveness

Findings

The WWC review of interventions for beginning reading addresses student outcomes in four domains: alphabetics, fluency, comprehension, and general reading achievement.[7] The study included in this report covers one domain: general reading achievement. The findings below present the authors' estimates and WWC-calculated estimates of the size and the statistical significance of the effects of *CWPT* on students.[8]

General reading achievement. Greenwood et al. (1993) reported a statistically significant effect of *CWPT* on the Comprehensive Test of Basic Skills–Reading. According to WWC analysis, however, the effect was not statistically significant. The effect size was large enough to be considered substantively important according to WWC criteria (that is, an effect size of at least 0.25).

Rating of effectiveness

The WWC rates the effects of an intervention in a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings, the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies (see the WWC Intervention Rating Scheme).

The WWC found *CWPT* to have potentially positive effects on general reading achievement

Improvement index

The WWC computes an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each study and an average improvement index across studies (see Technical Details of WWC-Conducted Computations). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is based entirely on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analyses. The improvement index can take on values between –50 and +50, with positive numbers denoting results favorable to the intervention group.

The improvement index for general reading achievement is +14 percentile points on the one measure in the single study that met WWC evidence standards.

6. The Extent of Evidence Categorization was developed to tell readers how much evidence was used to determine the intervention rating, focusing on the number and size of studies. Additional factors associated with a related concept, external validity, such as the students' demographics and the types of settings in which studies took place, are not taken into account for the categorization.
7. For definitions of the domains, see the Beginning Reading Protocol.
8. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation, see the WWC Tutorial on Mismatch. See the WWC Intervention Rating Scheme for the formulas the WWC used to calculate the statistical significance. In the case of *CWPT*, corrections for clustering were needed.

The WWC found *CWPT* to have potentially positive effects on general reading achievement *(continued)*

Summary

The WWC reviewed 12 studies on *CWPT*. One of these studies met WWC evidence standards; the remaining studies did not meet WWC evidence screens.[9] Based on this one study, the WWC found potentially positive effects on general reading achievement. The evidence presented in this report may change as new research emerges.

References

Met WWC evidence standards

Greenwood, C. R., Terry, B., Utley, C. A., Montagna, D., & Walker, D. (1993). Achievement placement and services: Middle school benefits of ClassWide Peer Tutoring used at the elementary school. *School Psychology Review, 22*(3), 497–516.

Additional sources:

Greenwood, C. R. (1991). Longitudinal analysis of time, engagement and achievement in at-risk versus non-risk students. *Exceptional Children, 57*(6), 521–535.

Greenwood, C. R., Delquadri, J., & Hall, R. V. (1989). Longitudinal effects of classwide peer tutoring. *Journal of Educational Psychology, 81,* 371–383.

Did not meet WWC evidence screens

Abbott, M., Greenwood, C. R., Buzhardt, J., & Tapia, Y. (2006). Using technology-based teacher support tools to scale up the ClassWide Peer Tutoring program. *Reading and Writing Quarterly, 22,* 47–64.[10]

Bradley, D., Bjorlykke, L., Mann, E., Homon, C., & Lindsay, J. (1993, October). *Empowerment of the general educator through effective teaching strategies.* Paper presented at the meeting of the International Conference on Learning Disabilities, Baltimore, MD.[11]

Burks, M. (2004). Effects of Classwide Peer Tutoring on the number of words spelled correctly by students with LD. *Intervention in School and Clinic, 39*(5), 301–384.[12]

Buzhardt, J., Abbott, M., Greenwood, C. R., & Tapia, Y. (2005). Usability testing of the ClassWide Peer Tutoring-Learning Management System. *Journal of Special Education Technology, 20*(1), 19–31.[13]

Buzhardt, J., Greenwood, C. R., Abbott, M., & Tapia, Y. (2006). Research on scaling up effective instructional intervention practice: Developing a measure of the rate of implementation. *Educational Technology Research and Development, 54*(5), 467–492.[13]

Greenwood, C. R., Dinwiddie, G., Bailey, V., Carta, J. J., Dorsey, D., Kohler, F. W., Nelson, C., Rotholtz, D., & Schulte, D. (1987). Field replication of classwide peer tutoring. *Journal of Applied Behavior Analysis, 20,* 151–160.[13]

Moore, A. R. (1993). Effects of strategy training and classwide peer tutoring on the reading comprehension of students with learning disabilities. *Dissertation Abstracts International, 54*(11), 4041A. (UMI No. 9410387)[13]

9. One single-case design study was identified but is not included in this review because the WWC does not yet have standards for reviewing single-case design studies.
10. Does not use a strong causal design: the study did not use a comparison group.
11. Does not use a strong causal design: this study, which used a quasi-experimental design, did not use equating measures to ensure that the comparison group was equivalent to the treatment group.
12. The outcome measures are not relevant to this review.
13. The sample is not appropriate to this review: the parameters for this WWC review specified that students should be in grades kindergarten through 3; this study did not disaggregate students in the eligible range from those outside the range.

References *(continued)*

Neddenriep, C. E. (2003). ClassWide Peer Tutoring: Three experiments investigating the generalized effects of increased oral reading fluency to silent reading comprehension. *Dissertation Abstracts International, 64*(09), 3192A. (UMI No. 3104401)[14]

Sideridis, G. D., Utley, C. , Greenwood, C. R., & Delquadri, J., et al. (1997). ClassWide Peer Tutoring: Effects on the spelling performance and social interactions of students with mild disabilities and their typical peers in an integrated instructional setting. *Journal of Behavioral Education, 7*(4), 203–212.[13]

Simmons, D., Fuchs, D., Fuchs, L. S., Hodge, J. P., & Mathes, P. G. (1994). Importance of instructional complexity and role reciprocity to classwide peer tutoring. *Learning Disabilities Research & Practice, 9*(4), 203–212.[14]

Veerkamp, M. B. (2001). The effects of ClassWide Peer Tutoring on the reading achievement of urban middle school students. *Dissertation Abstracts International, 63*(04), 2047B. (UMI No. 3049533)[14]

Disposition Pending

Kamps, D. M., Barbetta, P. M., Leonard, B. R., & Delquadri, J. (1994). Classwide peer tutoring: An integration strategy to improve and promote peer interactions among students with autism and general education peers. *Journal of Applied Behavior Analysis, 27*(1), 49–61.

For more information about specific studies and WWC calculations, please see the WWC *ClassWide Peer Tutoring* Technical Appendices.

14. The sample is not appropriate to this review: the parameters for this WWC review specified that students should be in grades kindergarten through third grade during the time of the intervention; this study did not focus on the targeted grades.